

**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Shinya ARASE, Takahiro KISHIOKA, Ken-ichi  
MIZUSAWA

Application No.: New U.S. Patent Application

Filed: February 20, 2002

Docket No.: 111993

For: BOTTOM ANTI-REFLECTIVE COAT FORMING COMPOSITION FOR  
LITHOGRAPHY

**PRELIMINARY AMENDMENT**

Director of the U.S. Patent and Trademark Office  
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please replace claims 6,7,8 and 9 as follows:

6. (Amended) The bottom anti-reflective coat forming composition according to claim 3, wherein R<sup>1</sup> is hydrogen, halogen or substituted or unsubstituted C<sub>1</sub>-C<sub>10</sub> alkyl group in the structural unit shown in the Formula (1) or the Formula (2).

7. (Amended) The bottom anti-reflective coat forming composition according to claim 1, wherein said composition further comprises crosslinking agent having at least two crosslinking forming functional groups.

8. (Amended) The method of forming the bottom anti-reflective coating for the lithography process in the preparation of semiconductor device, comprising applying the

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bottom anti-reflective coat forming composition according to claim 1 over the substrate, and then baking.

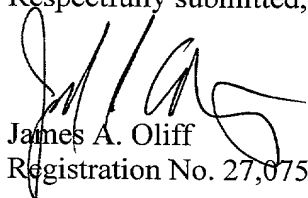
9. (Amended) The method of preparation for semiconductor device, comprising applying the bottom anti-reflective coat forming composition according to claim 1 over the substrate, forming the bottom anti-reflective coating upon baking, coating photoresist over said bottom anti-reflective coating, exposing said substrate, developing and forming integrated circuit elements after transferring the image over the substrate by etching.

REMARKS

Claims 1 - 10 are pending. By this Preliminary Amendment, claims 6,7,8 and 9 are amended to remove multiple dependencies. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

Respectfully submitted,

  
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Attached: Appendix  
Date: February 20, 2002

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## APPENDIX

## Changes to Claims:

The following are marked-up versions of the amended claims:

6. (Amended) The bottom anti-reflective coat forming composition according to claim 3 ~~to any one of claims 3 to 5~~, wherein R<sup>1</sup> is hydrogen, halogen or substituted or unsubstituted C<sub>1</sub>-C<sub>10</sub> alkyl group in the structural unit shown in the Formula (1) or the Formula (2).
7. (Amended) The bottom anti-reflective coat forming composition according to claim 1 ~~any one of claims 1 to 6~~, wherein said composition further comprises crosslinking agent having at least two crosslinking forming functional groups.
8. (Amended) The method of forming the bottom anti-reflective coating for the lithography process in the preparation of semiconductor device, comprising applying the bottom anti-reflective coat forming composition according to claim 1 ~~any one of claims 1 to 7~~ over the substrate, and then baking.
9. (Amended) The method of preparation for semiconductor device, comprising applying the bottom anti-reflective coat forming composition according to claim 1 ~~any one of claims 1 to 7~~ over the substrate, forming the bottom anti-reflective coating upon baking, coating photoresist over said bottom anti-reflective coating, exposing said substrate, developing and forming integrated circuit elements after transferring the image over the substrate by etching.